STIC Biotechnology Systems Branch

RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: _10/549,352A_

Source: _THOP_

Date Processed by STIC: _11/28/06_

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:
1) **INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,**
2) **TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY**
FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO **REDUCE** ERRORED SEQUENCE LISTINGS, **PLEASE** USE THE **CHECKER VERSION 4.4.0 PROGRAM**, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
> **http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (**<http://www.uspto.gov/ebc/efs/downloads/documents.htm>** , **EFS Submission User Manual** - ePAVE)
2. **U.S. Postal Service:** Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. **Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):**
   U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06

Raw Sequence Listing Error Summary

ERROR DETECTED	SUGGESTED CORRECTION	SERIAL NUMBER: 10/549,352

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

1 ____ Wrapped Nucleics
Wrapped Aminos
The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor **after** creating it. Please adjust your right margin to .3; this will prevent "wrapping."

2 ____ Invalid Line Length
The rules require that a line **not exceed** 72 characters in length. This includes white spaces.

3 ____ Misaligned Amino Numbering
The numbering under each 5th amino acid is misaligned. Do **not** use tab codes between numbers; use **space characters**, instead.

4 ____ Non-ASCII
The submitted file was **not** saved in ASCII(DOS) text, as **required** by the Sequence Rules. **Please ensure your subsequent submission is saved in ASCII text.**

5 ____ Variable Length
Sequence(s)____contain n's or Xaa's representing more than one residue. **Per Sequence Rules, each n or Xaa can only represent a single residue.** Please present the **maximum** number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

6 ____ PatentIn 2.0 "bug"
A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) _____. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. **This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.**

7 ____ Skipped Sequences (OLD RULES)
Sequence(s) _____ missing. If intentional, please insert the following lines for **each** skipped sequence:
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
(i)   SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
This sequence is intentionally skipped

Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to **include** the skipped sequences.

8 ____ Skipped Sequences (NEW RULES)
Sequence(s) _____ missing. If **intentional**, please insert the following lines for **each** skipped sequence.
<210> sequence id number
<400> sequence id number
000

9 ____ Use of n's or Xaa's (NEW RULES)
Use of n's and/or Xaa's have been detected in the Sequence Listing.
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

10 ____ Invalid <213> Response
Per 1.823 of Sequence Rules, the only **valid** <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is **required** when <213> response is Unknown or is Artificial Sequence

11 ____ Use of <220>
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

12 ____ PatentIn 2.0 "bug"
Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

13 ____ Misuse of n/Xaa
"n" can **only** represent a single <u>nucleotide</u>; "Xaa" can **only** represent a single <u>amino acid</u>

IFWP

RAW SEQUENCE LISTING   DATE: 11/28/2006
PATENT APPLICATION: US/10/549,352A   TIME: 14:28:06

Input Set : **E:\70237USPCT Second Substitute Seq List.txt**
Output Set: **N:\CRF4\11282006\J549352A.raw**

```
 3 <110> APPLICANT: DRAKE, Caroline Rachel
 4        PAINE, Jacqueline Ann Mary
 5        SHIPTON, Catherine Ann
 7 <120> TITLE OF INVENTION: Enhanced Accumulation of Carotenoids in Plants
 9 <130> FILE REFERENCE: 70237USPCT
11 <140> CURRENT APPLICATION NUMBER: US 10/549,352A
12 <141> CURRENT FILING DATE: 2005-09-14
14 <150> PRIOR APPLICATION NUMBER: PCT/GB2004/001241
15 <151> PRIOR FILING DATE: 2004-03-24
17 <150> PRIOR APPLICATION NUMBER: US60/457,053
18 <151> PRIOR FILING DATE: 2003-03-22
20 <160> NUMBER OF SEQ ID NOS: 38
22 <170> SOFTWARE: PatentIn version 3.2
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 5630
26 <212> TYPE: DNA
27 <213> ORGANISM: Artificial Sequence
29 <220> FEATURE:
30 <223> OTHER INFORMATION: 12423
32 <400> SEQUENCE: 1
33 gttaatcatg gtgtaggcaa cccaaataaa acaccaaaat atgcacaagg cagtttgttg    60
35 tattctgtag tacagacaaa actaaaagta atgaaagaag atgtggtgtt agaaaaggaa   120
37 acaatatcat gagtaatgtg tgagcattat gggaccacga aataaaaaga acattttgat   180
39 gagtcgtgta tcctcgatga gcctcaaaag ttctctcacc ccggataaga aacccttaag   240
41 caatgtgcaa agtttgcatt ctccactgac ataatgcaaa ataagatatc atcgatgaca   300
43 tagcaactca tgcatcatat catgcctctc tcaacctatt cattcctact catctacata   360
45 agtatcttca gctaaatgtt agaacataaa cccataagtc acgtttgatg agtattaggc   420
47 gtgacacatg acaaatcaca gactcaagca agataaagca aaatgatgtg tacataaaac   480
49 tccagagcta tatgtcatat tgcaaaaaga ggagagctta taagacaagg catgactcac   540
51 aaaaattcat ttgcctttcg tgtcaaaaag aggagggctt tacattatcc atgtcatatt   600
53 gcaaaagaaa gagagaaaga acaacacaat gctgcgtcaa ttatacatat ctgtatgtcc   660
55 atcattattc atccacccttt cgtgtaccac acttcatata tcatgagtca cttcatgtct   720
57 ggacattaac aaactctatc ttaacatttta gatgcaagag cctttatctc actataaatg   780
59 cacgatgatt tctcattgtt tctcacaaaa agcattcagt tcattagtcc tacaacaacg   840
61 aattcggctt cccgggtaca gggtaaattt ctagttttc tccttcattt tcttggttag   900
63 gacccttttc tctttttatt tttttgagct ttgatctttc tttaaactga tctattttt   960
65 aattgattgg ttatcgtgta aatattacat agctttaact gataatctga ttactttatt  1020
67 tcgtgtgtct ttgatcatct tgatagttac agaaccgtcg actctagaga agccatttaa  1080
69 atcgccgcca ccatggcttc tatgatatcc tcttccgctg tgacaacagt cagccgtgcc  1140
71 tctaggggggc aatccgccgc agtggctcca ttcggcggcc tcaaatccat gactggattc  1200
73 ccagtgaaga aggtcaacac tgacattact tccattacaa gcaatggtgg aagagtaaag  1260
75 tgcatgaaac caactacggt aattggtgca ggcttcggtg cctggcact ggcaattcgt  1320
77 ctacaagctg cggggatccc cgtcttactg cttgaacaac gtgataaacc cggcggtcgg  1380
```

```
 79 gcttatgtct acgaggatca ggggtttacc tttgatgcag gcccgacggt tatcaccgat 1440
 81 cccagtgcca ttgaagaact gtttgcactg gcaggaaaac agttaaaaga gtatgtcgaa 1500
 83 ctgctgccgg ttacgccgtt ttaccgcctg tgttgggagt cagggaaggt cttttaattac 1560
 85 gataacgatc aaacccggct cgaagcgcag attcagcagt ttaatccccg cgatgtcgaa 1620
 87 ggttatcgtc agtttctgga ctattcacgc gcggtgttta agaaggcta tctgaagctc 1680
 89 ggtactgtcc cttttttatc gttcagagac atgcttcgcg ccgcacctca actggcgaaa 1740
 91 ctgcaggcat ggagaagcgt ttacagtaag gttgccagtt acatcgaaga tgaacatctg 1800
 93 cgccaggcgt tttctttcca ctcgctgttg gtgggcggca atcccttcgc cacctcatcc 1860
 95 att'tatacgt tgatacacgc gctggagcgt gagtggggcg tctggtttcc gcgtggcggc 1920
 97 accggcgcat tagttcaggg gatgataaag ctgtttcagg atctgggtgg cgaagtcgtg 1980
 99 ttaaacgcca gagtcagcca tatggaaacg acaggaaaca agattgaagc cgtgcattta 2040
101 gaggacggtc gcaggttcct gacgcaagcc gtcgcgtcaa atgcagatgt ggttcatacc 2100
103 tatcgcgacc tgttaagcca gcaccctgcc gcggttaagc agtccaacaa actgcagact 2160
105 aagcgcatga gtaactctct gtttgtgctc tattttggtt tgaatcacca tcatgatcag 2220
107 ctcgcgcatc acacggtttg tttcggcccg cgttaccgcg agctgattga cgaaattttt 2280
109 aatcatgatg gcctcgcaga ggacttctca ctttatctgc acgcgccctg tgtcacggat 2340
111 tcgtcactgg cgcctgaagg ttgcggcagt tactatgtgt tggcgccggt gccgcattta 2400
113 ggcaccgcga acctcgactg gacggttgag gggccaaaac tacgcgaccg tattttttgcg 2460
115 taccttgagc agcattacat gcctggctta cggagtcagc tggtcacgca ccggatgttt 2520
117 acgccgtttg attttcgcga ccagcttaat gcctatcatg gctcagcctt ttctgtggag 2580
119 cccgttctta cccagagcgc ctggtttcgg ccgcataacc gcgataaaac cattactaat 2640
121 ctctacctgg tcggcgcagg cacgcatccc ggcgcaggca ttcctggcgt catcggctcg 2700
123 gcaaaagcga cagcaggttt gatgctggag gatctgattt gaggccatgc aggccgatcc 2760
125 ccgatcgttc aaacatttgg caataaagtt tcttaagatt gaatcctgtt gccggtcttg 2820
127 cgatgattat catataattt ctgttgaatt acgttaagca tgtaataatt aacatgtaat 2880
129 gcatgacgtt atttatgaga tgggttttta tgattagagt cccgcaatta tacatttaat 2940
131 acgcgataga aaacaaaata tagcgcgcaa actaggataa attatcgcgc gcggtgtcat 3000
133 ctatgttact agatcgggcc ttaataagct tgttaatcat ggtgtaggca acccaaataa 3060
135 aacaccaaaa tatgcacaag gcagttgtt gtattctgta gtacagacaa aactaaaagt 3120
137 aatgaaagaa gatgtggtgt tagaaaagga acaatatca tgagtaatgt gtgagcatta 3180
139 tgggaccacg aaataaaaag aacattttga tgagtcgtgt atcctcgatg agcctcaaaa 3240
141 gttctctcac cccggataag aaacccttaa gcaatgtgca aagtttgcat tctccactga 3300
143 cataatgcaa aataagatat catcgatgac atagcaactc atgcatcata tcatgcctct 3360
145 ctcaacctat tcattcctac tcatctacat aagtatcttc agctaaatgt tagaacataa 3420
147 acccataagt cacgtttgat gagtattagg cgtgacacat gacaaatcac agactcaagc 3480
149 aagataaagc aaaatgatgt gtacataaaa ctccagagct atatgtcata ttgcaaaaag 3540
151 aggagagctt ataagacaag gcatgactca caaaaattca tttgcctttc gtgtcaaaaa 3600
153 gaggagggct ttacattatc catgtcatat tgcaaaagaa agagagaaag aacaacacaa 3660
155 tgctgcgtca attatacata tctgtatgtc catcattatt catccacctt tcgtgtacca 3720
157 cacttcatat atcatgagtc acttcatgtc tggacattaa caaactctat cttaacattt 3780
159 agatgcaaga gcctttatct cactataaat gcacgatgat ttctcattgt ttctcacaaa 3840
161 aagcattcag ttcattagtc ctacaacaac gaattcggct tcccgggtac agggtaaatt 3900
163 tctagttttt ctccttcatt ttcttggtta ggacccttt ctctttttat tttttgagc 3960
165 tttgatcttt cttttaaactg atctattttt taattgattg gttatcgtgt aaatattaca 4020
167 tagctttaac tgataatctg attactttat ttcgtgtgtc tttgatcatc ttgatagtta 4080
169 cagaaccgtc gactctagag aagccattta aatcgccgcc accatggcca tcatactcgt 4140
171 acgagcagcg tcgccggggc tctccgccgc cgacagcatc agccaccagg gactctcca 4200
173 gtgctccacc ctgctcaaga cgaagaggcc ggcggcgcgg cggtggatgc cctgctcgct 4260
175 ccttggcctc cacccgtggg aggctggccg tccctccccc gccgtctact ccagcctgcc 4320
```

RAW SEQUENCE LISTING   DATE: 11/28/2006
PATENT APPLICATION: US/10/549,352A   TIME: 14:28:06

Input Set : E:\70237USPCT Second Substitute Seq List.txt
Output Set: N:\CRF4\11282006\J549352A.raw

```
177 cgtcaacccg gcgggagagg ccgtcgtctc gtccgagcag aaggtctacg acgtcgtgct    4380
179 caagcaggcc gcattgctca aacgccagct gcgcacgccg gtcctcgacg ccaggcccca    4440
181 ggacatggac atgccacgca acgggctcaa ggaagcctac gaccgctgcg gcgagatctg    4500
183 tgaggagtat gccaagacgt tttacctcgg aactatgttg atgacagagg agcggcgccg    4560
185 cgccatatgg gccatctatg tgtggtgtag gaggacagat gagcttgtag atgggccaaa    4620
187 cgccaactac attacaccaa cagctttgga ccggtgggag aagagacttg aggatctgtt    4680
189 cacgggacgt ccttacgaca tgcttgatgc cgctctctct gataccatct caaggttccc    4740
191 catagacatt cagccattca gggacatgat tgaagggatg aggagtgatc ttaggaagac    4800
193 aaggtataac aacttcgacg agctctacat gtactgctac tatgttgctg gaactgtcgg    4860
195 gttaatgagc gtacctgtga tgggcatcgc aaccgagtct aaagcaacaa ctgaaagcgt    4920
197 atacagtgct gccttggctc tgggaattgc gaaccaactc acgaacatac tccgggatgt    4980
199 tggagaggat gctagaagag gaaggatata tttaccacaa gatgagcttg cacaggcagg    5040
201 gctctctgat gaggacatct tcaaagggt cgtcacgaac cggtggagaa acttcatgaa    5100
203 gaggcagatc aagagggcca ggatgttttt tgaggaggca gagagagggg taactgagct    5160
205 ctcacaggct agcagatggc cagtatgggc ttccctgttg ttgtacaggc agatcctgga    5220
207 tgagatcgaa gccaacgact acaacaactt cacgaagagg gcgtatgttg gtaaagggaa    5280
209 gaagttgcta gcacttcctg tggcatatgg aaaatcgcta ctgctcccat gttcattgag    5340
211 aaatggccag acctagggcc atgcaggccg atccccgatc gttcaaacat ttggcaataa    5400
213 agtttcttaa gattgaatcc tgttgccggt cttgcgatga ttatcatata atttctgttg    5460
215 aattacgtta agcatgtaat aattaacatg taatgcatga cgttatttat gagatgggtt    5520
217 tttatgatta gagtcccgca attatacatt taatacgcga tagaaaacaa aatatagcgc    5580
219 gcaaactagg ataaattatc gcgcgcggtg tcatctatgt tactagatcg                5630
222 <210> SEQ ID NO: 2
223 <211> LENGTH: 5630
224 <212> TYPE: DNA
225 <213> ORGANISM: Artificial Sequence
227 <220> FEATURE:
228 <223> OTHER INFORMATION: 12421
230 <400> SEQUENCE: 2
231 gttaatcatg gtgtaggcaa cccaaataaa acaccaaaat atgcacaagg cagtttgttg      60
233 tattctgtag tacagacaaa actaaaagta atgaaagaag atgtggtgtt agaaaaggaa     120
235 acaatatcat gagtaatgtg tgagcattat gggaccacga aataaaaaga acatttgat     180
237 gagtcgtgta tcctcgatga gcctcaaaag ttctctcacc ccggataaga aacccttaag     240
239 caatgtgcaa agtttgcatt ctccactgac ataatgcaaa ataagatatc atcgatgaca     300
241 tagcaactca tgcatcatat catgcctctc tcaacctatt cattcctact catctacata     360
243 agtatcttca gctaaatgtt agaacataaa cccataagtc acgtttgatg agtattaggc     420
245 gtgacacatg acaaatcaca gactcaagca agataaagca aaatgatgtg tacataaaac     480
247 tccagagcta tatgtcatat tgcaaaaaga ggagagctta taagacaagg catgactcac     540
249 aaaaattcat ttgcctttcg tgtcaaaaag aggagggctt tacattatcc atgtcatatt     600
251 gcaaaagaaa gagagaaaga acaacacaat gctgcgtcaa ttatacatat ctgtatgtcc     660
253 atcattattc atccaccttt cgtgtaccac acttcatata tcatgagtca cttcatgtct     720
255 ggacattaac aaactctatc ttaacattta gatgcaagag cctttatctc actataaatg     780
257 cacgatgatt tctcattgtt tctcacaaaa agcattcagt tcattagtcc tacaacaacg     840
259 aattcggctt cccgggtaca gggtaaattt ctagtttttc tccttcattt tcttggttag     900
261 gacccttttc tcttttatt ttttgagct ttgatctttc tttaaactga tctatttttt     960
263 aattgattgg ttatcgtgta aatattacat agctttaact gataatctga ttactttatt    1020
265 tcgtgtgtct ttgatcatct tgatagttac agaaccgtcg actctagaga agccatttaa    1080
267 atcgccgcca ccatggcttc tatgatatcc tcttccgctg tgacaacagt cagccgtgcc    1140
269 tctaggggc aatccgccgc agtggctcca ttcggcggcc tcaaatccat gactggattc    1200
```

Handwritten annotations: — Pls explain source of genetic material. — Invalid response — See item# 11 on error summary sheet.

```
271 ccagtgaaga aggtcaacac tgacattact tccattacaa gcaatggtgg aagagtaaag 1260
273 tgcatgaaac caactacggt aattggtgca ggcttcggtg gcctggcact ggcaattcgt 1320
275 ctacaagctg cggggatccc cgtcttactg cttgaacaac gtgataaacc cggcggtcgg 1380
277 gcttatgtct acgaggatca ggggtttacc tttgatgcag gcccgacggt tatcaccgat 1440
279 cccagtgcca ttgaagaact gtttgcactg gcaggaaaac agttaaaaga gtatgtcgaa 1500
281 ctgctgccgg ttacgccgtt ttaccgcctg tgttgggagt cagggaaggt ctttaattac 1560
283 gataacgatc aaacccggct cgaagcgcag attcagcagt ttaatccccg cgatgtcgaa 1620
285 ggttatcgtc agtttctgga ctattcacgc gcggtgttta aagaaggcta tctgaagctc 1680
287 ggtactgtcc cttttttatc gttcagagac atgcttcgcg ccgcacctca actggcgaaa 1740
289 ctgcaggcat ggagaagcgt ttacagtaag gttgccagtt acatcgaaga tgaacatctg 1800
291 cgccaggcgt tttctttcca ctcgctgttg gtgggcggca atcccttcgc cacctcatcc 1860
293 atttatacgt tgatacacgc gctggagcgt gagtggggcg tctggtttcc gcgtggcggc 1920
295 accggcgcat tagttcaggg gatgataaag ctgtttcagg atctgggtgg cgaagtcgtg 1980
297 ttaaacgcca gagtcagcca tatggaaacg acaggaaaca agattgaagc cgtgcattta 2040
299 gaggacggtc gcaggttcct gacgcaagcc gtcgcgtcaa atgcagatgt ggttcatacc 2100
301 tatcgcgacc tgttaagcca gcaccctgcc gcggttaagc agtccaacaa actgcagact 2160
303 aagcgcatga gtaactctct gtttgtgctc tattttggtt tgaatcacca tcatgatcag 2220
305 ctcgcgcatc acacggtttg tttcggcccg cgttaccgcg agctgattga cgaaattttt 2280
307 aatcatgatg gcctcgcaga ggacttctca ctttatctgc acgcgccctg tgtcacggat 2340
309 tcgtcactgg cgcctgaagg ttgcggcagt tactatgtgt tggcgccggt gccgcattta 2400
311 ggcaccgcga acctcgactg gacggttgag gggccaaaac tacgcgaccg tattttgcg 2460
313 taccttgagc agcattacat gcctggctta cggagtcagc tggtcacgca ccggatgttt 2520
315 acgccgtttg attttcgcga ccagcttaat gcctatcatg gctcagcctt ttctgtggag 2580
317 cccgttctta cccagagcgc ctggtttcgg ccgcataacc gcgataaaac cattactaat 2640
319 ctctacctgg tcggcgcagg cacgcatccc ggcgcaggca ttcctggcgt catcggctcg 2700
321 gcaaaagcga cagcaggttt gatgctggag gatctgattt gaggccatgc aggccgatcc 2760
323 ccgatcgttc aaacatttgg caataaagtt tcttaagatt gaatcctgtt gccggtcttg 2820
325 cgatgattat catataattt ctgttgaatt acgttaagca tgtaataatt aacatgtaat 2880
327 gcatgacgtt atttatgaga tgggttttta tgattagagt cccgcaatta tacatttaat 2940
329 acgcgataga aaacaaaata tagcgcgcaa actaggataa attatcgcgc gcggtgtcat 3000
331 ctatgttact agatcgggcc ttaataagct tgttaatcat ggtgtaggca acccaaataa 3060
333 aacaccaaaa tatgcacaag gcagtttgtt gtattctgta gtacagacaa aactaaaagt 3120
335 aatgaaagaa gatgtggtgt tagaaaagga aacaatatca tgagtaatgt gtgagcatta 3180
337 tgggaccacg aaataaaaag aacatttga tgagtcgtgt atcctcgatg agcctcaaaa 3240
339 gttctctcac cccggataag aaacccttaa gcaatgtgca aagtttgcat tctccactga 3300
341 cataatgcaa aataagatat catcgatgac atagcaactc atgcatcata tcatgcctct 3360
343 ctcaacctat tcattcctac tcatctacat aagtatcttc agctaaatgt tagaacataa 3420
345 acccataagt cacgtttgat gagtattagg cgtgacacat gacaaatcac agactcaagc 3480
347 aagataaagc aaaatgatgt gtacataaaa ctccagagct atatgtcata ttgcaaaaag 3540
349 aggagagctt ataagacaag gcatgactca caaaaattca tttgcctttc gtgtcaaaaa 3600
351 gaggagggct ttacattatc catgtcatat tgcaaaagaa agagagaaag aacaacacaa 3660
353 tgctgcgtca attatacata tctgtatgtc catcattatt catccacctt cgtgtaccca 3720
355 cacttcatat atcatgagtc acttcatgtc tggacattaa caaactctat cttaacattt 3780
357 agatgcaaga gcctttatct cactataaat gcacgatgat ttctcattgt ttctcacaaa 3840
359 aagcattcag ttcattagtc ctacaacaac gaattcggct tcccgggtac agggtaaatt 3900
361 tctagttttt ctccttcatt ttcttggtta ggaccctttt ctctttttat tttttgagc 3960
363 tttgatcttt ctttaaactg atctattttt taattgattg gttatcgtgt aaatattaca 4020
365 tagctttaac tgataatctg attactttat ttcgtgtgtc tttgatcatc ttgatagtta 4080
367 cagaaccgtc gactctagag aagccatta aatcgccgcc accatggcca tcatactcgt 4140
```

RAW SEQUENCE LISTING   DATE: 11/28/2006
PATENT APPLICATION: US/10/549,352A   TIME: 14:28:06

Input Set : E:\70237USPCT Second Substitute Seq List.txt
Output Set: N:\CRF4\11282006\J549352A.raw

```
369 acgagcagcg tcgccggggc tctccgccgc cgacagcatc agccaccagg ggactctcca   4200
371 gtgctccacc ctgctcaaga cgaagaggcc ggcggcgcgc cggtggatgc cctgctcgct   4260
373 ccttggcctc cacccgtggg aggctggccg tccctccccc gccgtctact ccagcctcgc   4320
375 cgtcaacccg gcgggagagg ccgtcgtctc gtccgagcag aaggtctacg acgtcgtgct   4380
377 caagcaggcc gcattgctca aacgccagct cgcgcacgcc gtcctcgacg ccaggcccca   4440
379 ggacatggac atgccacgca acgggctcaa ggaagcctac gaccgctgcg cgcgagatctg   4500
381 tgaggagtat gccaagacgt tttacctcgg aactatgttg atgacagagg agcggcgccg   4560
383 cgccatatgg gccatctatg tgtggtgtag gaggacagat gagcttgtag atgggccaaa   4620
385 cgccaactac attacaccaa cagctttgga ccggtgggag aagagacttg aggatctgtt   4680
387 cacgggacgt ccttacgaca tgcttgatgc cgctctctct gataccatct caaggttccc   4740
389 catagacatt cagccattca gggacatgat tgaagggatg aggagtgatc ttaggaagac   4800
391 aaggtataac aacttcgacg agctctacat gtactgctac tatgttgctg gaactgtcgg   4860
393 gttaatgagc gtaccagtga tgggcatcgc atccgagtct aaagcaacaa ctgaaagcgt   4920
395 gtacagtgct gccttggctc tcggaattgc gaaccaactc acgaacatac tccgggatgt   4980
397 tggagaggat gctagacgag gaaggatata tttaccacaa gatgagcttg cacaggcagg   5040
399 gctctctgat gaggacatct tcaaagggtg cgtcacgaac cggtggagaa acttcatgaa   5100
401 gaggcagatc aagagggcca ggatgttttt tgaggaggca gagagagggg taactgagct   5160
403 ctcacaggct agcagatggc cagtatgggc ttccctgttg ttgtacaggc agatcctgga   5220
405 tgagatcgaa gccaacgact acaacaactt cacgaagagg gcgtatgttg gtaaagggaa   5280
407 gaagttgcta gcacttcctg tggcatatgg aaaatcgcta ctgctcccat gttcattgag   5340
409 aaatggccag acctagggcc atgcaggccg atccccgatc gttcaaacat ttggcaataa   5400
411 agtttcttaa gattgaatcc tgttgccggt cttgcgatga ttatcatata atttctgttg   5460
413 aattacgtta agcatgtaat aattaacatg taatgcatga cgttatttat gagatgggtt   5520
415 tttatgatta gagtcccgca attatacatt taatacgcga tagaaaacaa aatatagcgc   5580
417 gcaaactagg ataaattatc gcgcgcggtg tcatctatgt tactagatcg            5630
420 <210> SEQ ID NO: 3
421 <211> LENGTH: 5180
422 <212> TYPE: DNA
423 <213> ORGANISM: Artificial Sequence
425 <220> FEATURE:
426 <223> OTHER INFORMATION: 12422
428 <400> SEQUENCE: 3
429 gttaatcatg gtgtaggcaa cccaaataaa acaccaaat atgcacaagg cagtttgttg     60
431 tattctgtag tacagacaaa actaaaagta atgaaagag atgtggtgtt agaaaaggaa    120
433 acaatatcat gagtaatgtg tgagcattat gggaccacg aataaaaaga acattttgat    180
435 gagtcgtgta tcctcgatga gcctcaaaag ttctctcacc ccggataaga aacccttaag    240
437 caatgtgcaa agtttgcatt ctccactgac ataatgcaa ataagatatc atcgatgaca    300
439 tagcaactca tgcatcatat catgcctctc tcaacctatt cattcctact catctacata    360
441 agtatcttca gctaaatgtt agaacataaa cccataagtc acgtttgatg agtattaggc    420
443 gtgacacatg acaaatcaca gactcaagca agataaagca aatgatgtg tacataaaac    480
445 tccagagcta tatgtcatat tgcaaaaaga ggagagctta aagacaagg catgactcac    540
447 aaaaattcat ttgcctttcg tgtcaaaaag aggagggctt acattatcc atgtcatatt    600
449 gcaaaagaaa gagagaaaga acaacacaat gctgcgtcaa ttatacatat ctgtatgtcc    660
451 atcattattc atccaccttt cgtgtaccac acttcatata tcatgagtca cttcatgtct    720
453 ggacattaac aaactctatc ttaacattta gatgcaagag ctttatctc actataaatg    780
455 cacgatgatt tctcattgtt tctcacaaaa agcattcagt tcattagtcc tacaacaacg    840
457 aattcggctt cccaaatcgc cgccaccatg gcttctatga atcctcttc cgctgtgaca    900
459 acagtcagcc gtgcctctag ggggcaatcc gccgcagtgg ctccattcgg cggcctcaaa    960
461 tccatgactg gattcccagt gaagaaggtc aacactgaca ttacttccat tacaagcaat   1020
```

VERIFICATION SUMMARY　　　　　　　　　　DATE: 11/28/2006
PATENT APPLICATION:　**US/10/549,352A**　　　TIME: 14:28:07

Input Set : **E:\70237USPCT Second Substitute Seq List.txt**
Output Set: **N:\CRF4\11282006\J549352A.raw**